

American Vegetable Grower

AUGUST • 1955



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American VEGETABLE GROWER

REG. U. S. PAT. OFF.
(Commercial Vegetable Grower)

Vol. 3 August, 1955 No. 8

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E. G. K. MEISTER,
Publisher

RICHARD T. MEISTER, Editor

Editorial Staff

E. K. GOULD, Managing Editor

H. B. TUKEY ELDON S. BANTA

R. L. CAROLUS M. P. RASMUSSEN

GEORGE M. ROSS, Art Director

J. S. BENDER, Production Manager

EDWARD L. MEISTER, Director of Advertising

District Advertising Offices

NEW YORK, Martin-Snow Co., 140 E. 46th St.
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CHICAGO, Pack and Billingslea, Inc., 185 N.
Wabash. Phone—Dearborn 2-0292

SAN FRANCISCO, McDonald-Thompson, 425 Mar-
ket St. Phone—Yukon 4-0647

LOS ANGELES, McDonald-Thompson, 3727 West
6th St. Phone—Dunkirk 7-5391

SEATTLE, McDonald-Thompson, 1008 Western Ave.
Phone—Elliot 3767

HOUSTON, McDonald-Thompson, 3217 Montrose
Blvd. Phone—Lynchburg 6711

DENVER, McDonald-Thompson, 222 Colorado Na-
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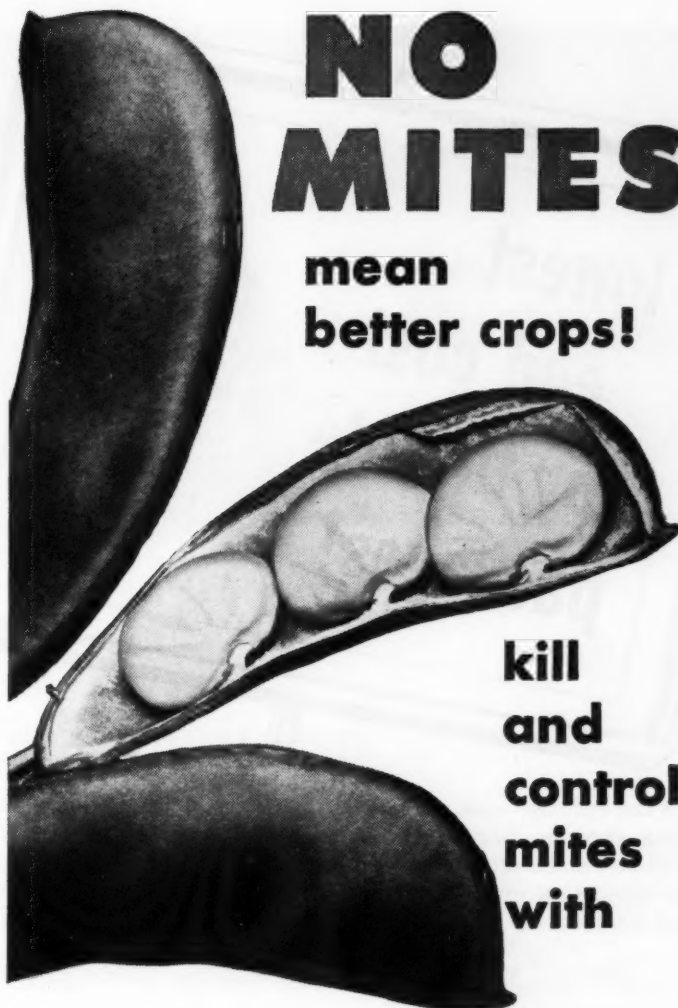
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AUGUST, 1955

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Division of United States Rubber Company
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It's the *end* cost—not the bag cost—that establishes your packaging expense. Bags made of VISQUEEN "c" have the body, flexibility and uniformity that assures higher speed, less breakage, less down time on packaging lines—hence lowest package cost. And its specially treated surface insures superior ink adhesion.

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for lower packaging costs

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LETTERS TO THE EDITOR

Successful Weed Control

Dear Editor:

I read both of your publications — AMERICAN VEGETABLE GROWER and AMERICAN FRUIT GROWER—as soon as I can spare the time, ads and all. I do get profit from reading the ads, as that is the way to keep in touch with new tools, new varieties, etc.

I read with much interest the article by S. K. Ries, "Spray Away Your Weed Troubles," and to lots of people this is good advice, especially considering the high cost of labor. But this advice does not appeal to me. Why? The reason is that I bought my farm seven years ago, and the weeds came up as thick as lawn grass, and it was a hard fight.

But I have not let any weeds mature seed these past seven years as I go through the crops after they are laid by and remove any weeds that have survived the previous cultivations and hoeings.

Some have said that I was crazy for doing this. But it has paid off. Now people do not see why I do not have weeds like they do, and when I tell them it is because no weeds have matured seed since I came here, they smile and look derisive.

The fact remains that I now have very few weeds to combat, so few that it will not pay me to use a weed eradicator, as a boy can cut out all the weeds on an acre in less than a day. I cultivate as soon as the crop comes through (sometimes before, if a rain crusts the soil), and the few weeds that are not covered by the cultivating are easily cut out of the rows.

Of course I have some annual weeds, but I have eradicated Johnson grass, quack grass, and Bermuda grass, as these three can be overcome in one year under the right method. The hardest fight has been with morning glory and tie vines, but I now have few of these.

Farmington, Mo.

E. Longenecker

Kraft Paper Hot Caps

Dear Editor:

The May issue has a lead article on the protection of young plants against frost. I think there may be an error in describing some of the papers as glassine. I feel quite certain, for example, that the illustration in the upper right-hand corner of page 7 is some of our Weathermaster Tent Paper which is a waxed kraft and not glassine. In fact, we were not aware around here that hot caps are even made from glassine.

You should be around this part of the country in early spring to see the acres of celery under paper. One would think the fields were covered with snow.

Kalamazoo Vegetable Parchment Co.
Kalamazoo, Mich.

Glenn Stewart

A Big Help

Dear Editor:

I want to tell you that your magazine is by far the most helpful of any that we take.

We have large truck farms and furnish camps and hotels in central Maine. Your article on lettuce in a recent issue was very good, and of special interest to us as we have a large lettuce acreage.

Belgrade, Maine

Charles H. Mills

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Corn stalks plowed down in fall without CYANAMID—still not rotted by following spring.



Corn stalks plowed down in fall with 300 lbs. per acre of CYANAMID—well rotted, soil rich in humus.

Don't plow up what you plow down

Does your plow turn up—*still unrotted*—the corn and grain stubble you plowed down the year before? It does unless you've helped the soil bacteria change the woody organic matter to soil humus. Without enough nitrogen and calcium, these soil bacteria are starved. They'll even steal nitrogen from your crop when you fertilize at spring planting time. The result is poor rotting and a cut in crop production because there isn't enough nitrogen for both jobs.

CYANAMID makes a big difference

But—what a difference when you add CYANAMID at plow down! CYANAMID provides soil bacteria with a balanced diet of nitrogen and calcium. Result—*fast rotting*. The organic matter you plow down with CYANAMID turns into good rich humus that feeds your following crops and improves soil condition.

21% of the *right* nitrogen

The right kind of nitrogen is important in a plow-down fertilizer. CYANAMID's 21% nitrogen is leach-resistant and slowly available. It feeds soil bacteria until refuse is thoroughly rotted, then gets the succeeding crop off to a good start. For most crops, on most soils, plow down with CYANAMID actually makes side- or top-dressing of the following crop *unnecessary*!

Plus calcium

An important bonus—each ton of CYANAMID supplies as much calcium as a ton of ground limestone. This calcium, in a particularly active form, neutralizes soil acidity, provides an ideal environment for soil bacteria, and helps build better soil structure.

For these reasons, CYANAMID is recognized far and wide as the *best* nitrogen source for plow down. CYANAMID is now readily available from all good fertilizer dealers.

For complete information on the benefits of CYANAMID for plow down, write to American Cyanamid Company, Agricultural Chemicals Division, 30 Rockefeller Plaza, New York 20, N. Y. Ask for free Humus leaflet.

CERTAINLY it pays to package in film made of **BAKELITE Polyethylene**



Packing apples at Chazy Orchards. Bags are made and printed by **Comet Packaging and Paper Company, Inc.**, New York, N. Y., from film made of **BAKELITE Brand Polyethylene** by **Chester Packaging Products Corp.**, Yonkers, N. Y.

"the results in increased sales are amazing"

"We bag apples in a big way, and use polyethylene to get strength, freshness protection, and good brand identification and sales appeal." That's the testimony of Donald F. Green, manager of Chazy Orchard, Chazy, N. Y., largest McIntosh orchard in the world.

Last season Chazy Orchard packaged nearly 33,000 bushels of apples, using 280,000 five-pound bags made of film produced from **BAKELITE Brand Polyethylene**. Now, with practically no exceptions, "all the apples we put into stores are sold—no returns. And we guarantee sales . . . take out any un-

merchandisable fruit each week and replace with fresh. We used to have about 5% returns.

Now they are nil **SPECIFY FILM MADE OF practically."**

Over and over again the benefits of packaging in film made of **BAKELITE Polyethylene** are proved by sales histories . . . for apples, for potatoes, soft fruits, produce, processed foods. It can pay you well, whether grower, shipper, or marketer, to see your local packaging supplier today and start benefiting the **BAKELITE Polyethylene** way.



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The term **BAKELITE** and the Trefoil Symbol are registered trade-marks of **UCC**

AMERICAN VEGETABLE GROWER

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From Spuds To POTATOES

Spuds are transformed into potatoes and onions take on a new look when packaged in attractive easy-to-carry consumer units. But WATCH OUT for hidden costs in your packaging operations

By ELDON S. BANTA

THERE is more to prepackaging than just putting a bag of potatoes or onions or any other product on the store shelf. Someone must study consumer buying habits to determine the size and kind of package most suitable. Others must study the keeping quality of each kind of produce in various types of packages. Machinery to assist in the packaging operation must be designed and perfected.

A study of the economics of the whole procedure must be made to see if it is efficient and profitable, to find where costs can be reduced or profits raised. We are really getting near the assembly-line type of agriculture.

Packaging of a vegetable item, as with all other packaged items, makes that product more competitive in the market. Potatoes in 100-pound bags in the store were just potatoes. Now, packed in 10- or 15-pound bags potatoes become a dozen different brands



Courtesy C. H. Merchant, U. of Maine
Washed, waxed, and packaged in printed bags is the way most Maine consumers like to buy potatoes. Herschel Smith, of Westfield, is shown filling a 10-pound polyethylene bag.

year they packed about 90 per cent of their onions in 3-pound polyethylene bags. The remainder went into 5- and 10-pound mesh bags. They still pack a sizable portion of their 200-acre crop of onions in 50-pound mesh bags. All the jumbos, 3 inches and up, are sold this way.

Veril Baldwin, who is president of the National Onion Growers Association, points out a few hidden costs a grower must watch for. In small packages there is the problem of overweight. Some is essential in order to take care of later shrinkage, but too much can be costly.

Suppose you put out only a half million 3-pound bags of onions a year and have an excess overweight of only an ounce per package. You have given away some 31,000 pounds of onions. Or, expressing it another way, you lose \$1,550 if onions are bringing a nickel a pound. Accurate weighing is very important.

Another hidden cost is the quality factor. It is essential to pack the high-



Accurate weighing of prepackaged potatoes and onions eliminates an important hidden cost. An excess of an ounce over and above shrinkage allowance means 31,000 pounds in packages of onions, or a loss of \$1,550 at 5 cents a pound.



Grading and packaging equipment on Veril Baldwin farms in Michigan. Endless belt on right feeds onions into bagging machine. Northwest baggers (Northwest Equip. Co., Yakima, Wash.) at left pack 3- or 5-pound heat-sealed polyethylene bags. Fifty-pound bags packed to right of feed belt.

in the same store. The shopper chooses the brand that has given her the greatest satisfaction in previous purchases, or she buys a new one that appeals to her. Quality in your product can often persuade a shopper to make your product her choice.

Veril Baldwin and sons, Duane and Danny, onion growers of Jackson and Stockridge, Michigan, know how true this is. Ever since they started packing onions in 3-pound bags some four years ago the volume marketed in these units has climbed steadily. Last

est quality in consumer units. The extra labor you put into handling and grading in order to pack a premium product is not readily apparent. It takes more equipment too. The Baldwins have recently put over \$10,000
(Continued on page 18)

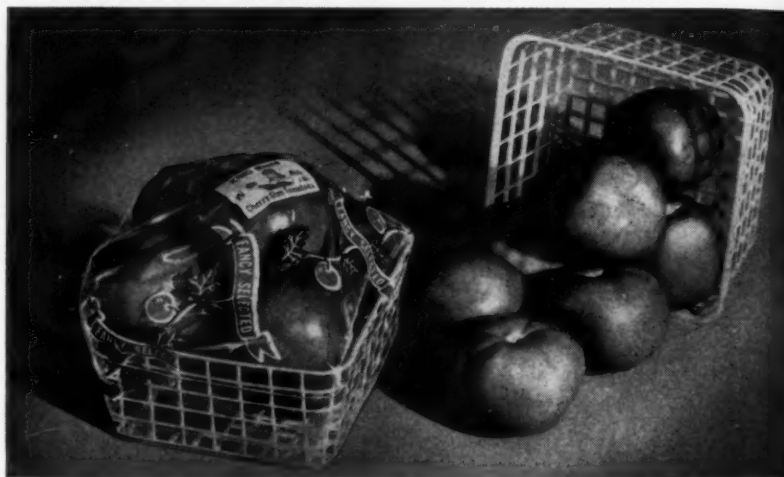
MODERN PACKAGING

For Modern Vegetables

YOUR orchard supply dealer is a good source for your package needs. If he cannot supply you, write direct to these manufacturers:

Alford Cartons, Ridgefield Park, N. J.
Cello-Masters, Inc., 1155 Randall Ave., New York 39, N. Y.
Cincinnati Cordage & Paper Co., E. Wayne & Scott Sts., Lima, Ohio.
Dobeckmun Company, 3301 Monroe Ave., Cleveland 1, Ohio.
Fort Wayne Corrugated Paper Company, 130 E. Douglas Ave., Fort Wayne 1, Ind.
Fruit & Produce Packing Company, Division Inland Container Corp., 700 W. Morris St., Indianapolis, Ind.
Milprint, Inc., Milwaukee 1, Wis.
The Ohio Boxboard Co., Rittman, Ohio.
Union Bag & Paper Corporation, Corrugated Container Division, Woolworth Bldg., New York 7, N. Y.
The Visking Corporation, Plastics Division, E. Fort Harrison Rd., Terre Haute, Ind.
Wabash Fibre Box Co., 2000 N. 19th St., Terre Haute, Ind.

Today's clean, crisp, quality vegetables need good package protection to insure top consumer appeal



Colorful Fresher-Pak plastic mesh basket can be capped with small printed sheet of cellophane held in place by rubber band or completely overwrapped with a full sheet of printed film.



A quality product identified with brand and grower's name insures repeat customers.



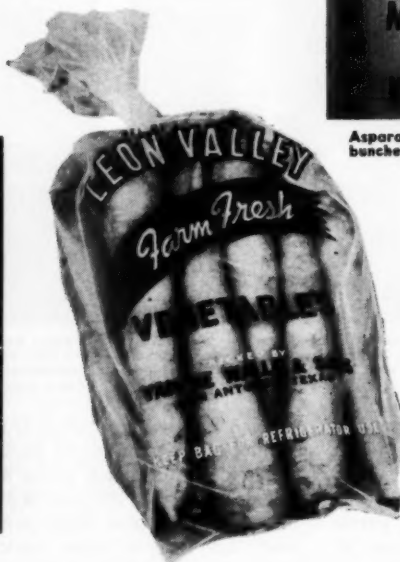
Wire handle for F & W tomato basket can be inserted after packing, makes filling easy.



Asparagus travels well when film-wrapped bunches are packed in a sturdy container.



Rectangular tray design has transparent film overwrap which identifies tomatoes as glass grown.



Sturdy Fort Wayne basket for home-grown vegetables has wood or wire handle.

Flexible film VisQueen bag is quickly filled and easily closed.

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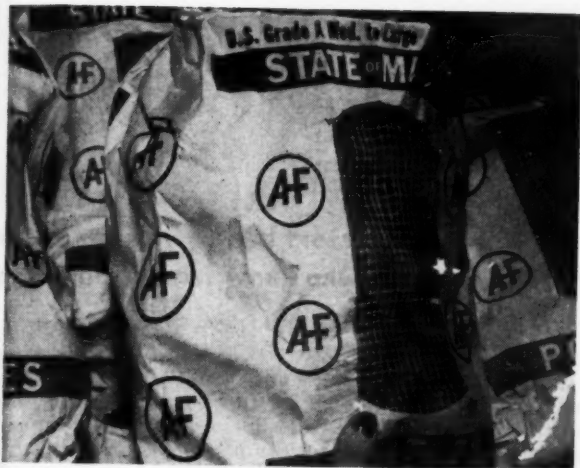
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A peek at the contents is afforded by mesh window in paper bag.



Corrugated basket of Ohio Boxboard is for roadside or retail use.



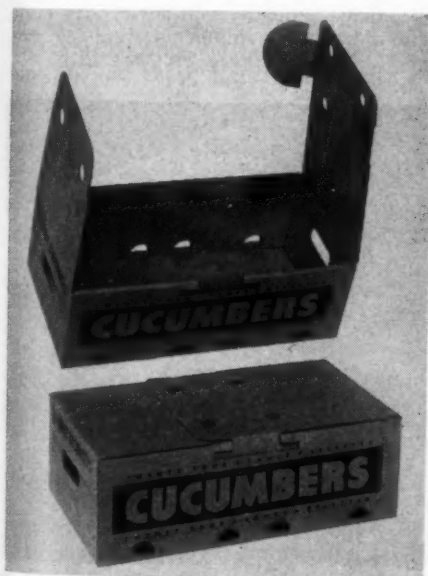
Sturdy Cincinnati Cordage paper bags are closed with wire fasteners.



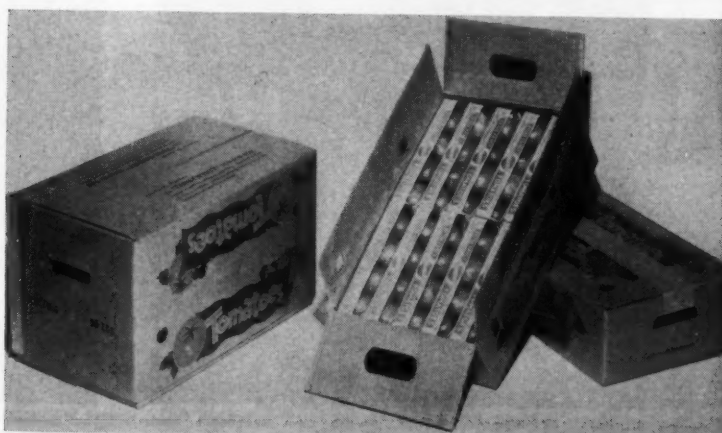
Rigid-Pak tomato tray has no glued ends to separate during set-up.



Celery becomes even more inviting when protected with a film wrap.



One-piece Union Bag box holds 24 cucumbers securely in place with unique locking device.



Corrugated box holds 50 pounds of bulk tomatoes, can be repacked to form two 20-tray boxes.

Some Pointers on PREPACKAGING

You can "lose your shirt" if you start big, or you can make handsome profits, say growers who know from experience



Charles Nickels . . . expanded too fast.

By R. T. MEISTER
Editor

PACKAGING of fresh fruits and vegetables in consumer units is still experiencing growing pains. Some growers and leaders in the industry believe prepackaging should be done at the retail level. Other growers have met with phenomenal success in prepackaging vegetables.

That it is vitally important to carefully consider which vegetables to prepack and to determine your outlets before you prepackage in a big way is shown by the experience of Charles Nickels, of Huron, Ohio. After four years of hard work and the investment of a large sum of money Nickels has given up prepackaging, and has

gone back to conventional packing.

"One of my big mistakes after one year of experimenting," Nickels says, "was to go on a production basis that cut costs but increased the volume to the extent that I was begging for customers rather than the customers begging for my products, as was the case the first year."

"My best advice to anyone who is interested in prepacking is to start with a small operation and allow it to grow in accordance with demand," cautions Nickels.

Nickels prepackaged chiefly sweet corn, asparagus, shelled peas, green and yellow beans, spinach, kale, salad, and slaw. His greatest problem was to chill his products and to get the retailer to handle them as carefully as meat and dairy products are handled.

The prepackaging experience of Wustman Brothers, of Byron Center, Mich., proves Nickels' advice is pretty sound. They started prepackaging because their trade demanded it, and sales for their prepackaged radishes, carrots, turnips, and parsnips are steadily increasing. Prepackaging of root vegetables enables more stores—including smaller ones—to handle their vegetables, they report.

Brand identity of a quality product is usually assurance of repeat purchases. But A. Mungai, of Santa

Cruz Artichoke and Sprout Growers Association, Santa Cruz, Calif., reports that the color of the printing on their film bags was also an important factor in determining sales of Brussels sprouts grown by grower-members. After trying several colors they settled on dark blue and white trim which gives the sprouts a bright, fresh look.

Mungai reports that prepackaging has greatly increased the demand for their Coast King brand sprouts. They, like Wustman Brothers, now reach smaller towns and markets.

Packaging celery in cellophane bags seems simple enough. But Roselli Brothers Farms, of Westfield, Mass., had to solve two problems before they could market their prepackaged celery profitably. One was precooling, says Nick Roselli; the other was the development of a production line to handle the cartons.

In March of this year the Fudenna Brothers, growers of premium quality cauliflower, made trade paper headlines. From their fields in Irvington, Calif., a refrigerated truck shipment of cauliflower, each trimmed head wrapped in cellophane, had arrived in New York City. This shipment was their way of announcing to the trade that top quality cauliflower was available. Later shipments went by rail.

(Continued on page 21)



Fudenna Brothers, of Irvington, Calif., wash and hydrocool their quality cauliflower to remove field heat, and use assembly line techniques (above) to trim tough outer leaves from the "flowers."



The cellophane-wrapped "flowers" are packed 12 to a carton in perforated fiber cartons, and are vacuum cooled for about an hour prior to shipment. Printed overwrap allows brand identification.

AMERICAN VEGETABLE GROWER

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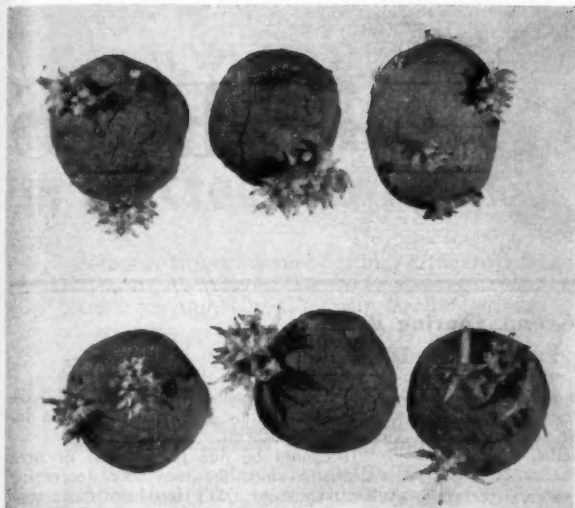
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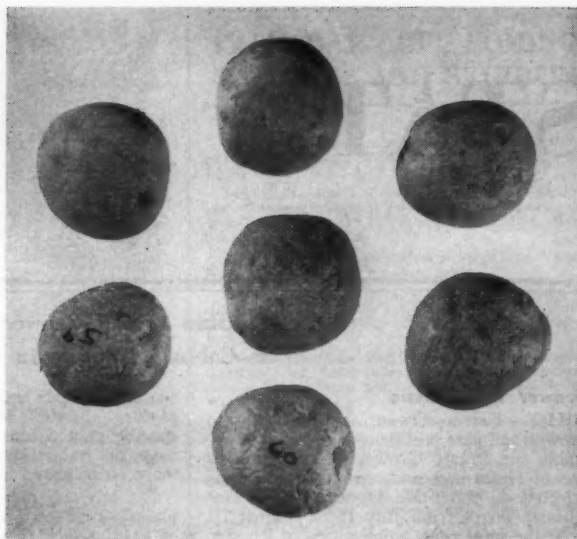
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Katahdin potatoes showing typical sprouting after four months at room temperature. They would look about like this after 10 months.



Irradiated Katahdins four months after storage at room temperature. They too would look about the same after 10 months' storage.

THE ATOMIC AGE FOR VEGETABLES

A quick dose of radiant energy and potatoes and onions remain sproutless during storage—the beginning perhaps of many revolutionary uses of atomic energy in the vegetable field

By **ARTHUR H. SPARROW**
Brookhaven National Laboratory

POTATOES and onions will probably be the first vegetables to benefit from atomic energy. Within the next few years, ionizing radiation from special machines will probably be used commercially to prevent sprouting and thus prolong the storage life of these important vegetables.

"Irradiation" has become an important byword in the vegetable trade since the conference on potato irradiation at atom-studying Brookhaven National Laboratory May 25. Growers became suddenly aware that the atomic age was not a thing of the future—it was almost here.

This conference was the logical result of the recent rapid advances in knowledge concerning the effect of various types of radiation on the inhibition of sprouting in onions and potatoes. Work at Long Island's Brookhaven National Laboratory, the University of Michigan, and the Long Island Vegetable Research Farm at Riverhead has clearly shown that fairly low doses of X rays, gamma rays, or fast electron beams will inhibit the sprouting of potatoes and onions.

In addition to the inhibition of sprouting there is a reduction in the loss of weight and in the softening and wrinkling which normally occurs when the potatoes begin to sprout. The actual dosage varies somewhat with different varieties of potatoes, but 10,000 to 20,000 roentgens gives very satisfactory control of sprouting even in tubers stored at room temperature for as long as 9 to 10 months. A somewhat smaller dose of 4,000 roentgens gives very good control of sprouting in sweet Spanish onions.

It is the opinion of Dr. R. L. Sawyer, of the Long Island Vegetable Research Farm, that the control of sprouting observed in irradiated potatoes is superior to that observed with any of the commonly used chemical inhibitors. Similarly, the control of sprouting in onions is equal to or better than that obtained with any chemicals so far tested.

There is little doubt that the method is very effective and potentially of economic value. Several groups have already designed facilities for the irradiation of potatoes or other similar vegetables on a large scale. To date, none of these facilities has been constructed or tested, but there is little reason to doubt that the engineer-

ing problems involved could be solved without too much difficulty.

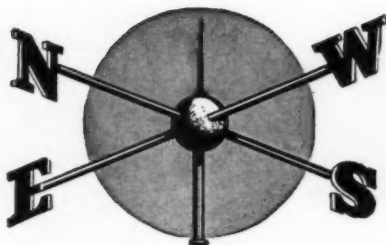
The actual cost of irradiating potatoes in large quantities is as yet unknown, but it has been estimated to be feasible at as little as \$3 to \$4 per ton. However, other estimates have ranged as high as \$20 per ton. These estimates are only approximations and would probably be revised once a plant is actually built and in operation. The price might be even lower than the minimum so far quoted if very large-scale operations are involved.

Two possible methods of irradiation have been considered. The first is the use of radioactive isotopes which emit gamma or beta radiation in sufficient quantity to control sprouting. Possibly some of the by-products of nuclear reactors could be used for this purpose, and the expense would not be unreasonable.

A second possibility would be a type of machine which produced a penetrating beam of fast electrons. It has been estimated that either installation would cost a minimum of \$50,000, and might run well over \$100,000.

In addition to the problem of de-
(Continued on page 18)

STATE



NEWS

- Ohio Potato Grower in Group Touring Russia
- Cabbage Worms in New York Spurn DDT

Grower Tours Russia

OHIO—Ferris Owen, Newark potato grower and past president of the Ohio Vegetable and Potato Growers' Association, is one of 11 farmers and agricultural experts selected by the State Department to tour Russian farms from July 15 to August 15.

At the same time, a delegation of Russian farmers is making a similar tour of United States farming areas.

Besides raising 100 acres of potatoes with his father, Wilfred, Owen is a member of the board of directors of both the National Potato Council and the Ohio Potato Growers' Association.

Now is the time to plant Chinese cabbage, since it does best as a fall crop in Ohio. Planting now inhibits formation of seed stalks which lower quality.—E. C. Wittmeyer, Sec'y, Columbus.

SPUDS FOR HEALTH

Can eating potatoes help prevent heart disease and other "tension" ailments common in the U.S. today?

To find the answer to this question—because a "yes" answer would greatly increase potato consumption—the National Potato Council plans to investigate the medical benefits of potatoes. The program will be undertaken in co-operation with USDA and will involve such private agencies as the American Medical Association.

William Case, executive director of the NPC, points out that the incidence of heart disease in this country has grown in almost direct proportion to the per capita decrease in potato consumption. It is three times higher than that of such potato-eating countries as Germany, and five times that of Denmark where potato consumption is one of the highest in the world.

According to Winslow B. Whiteley, NPC president, potato growers have doubled their yields per acre since 1940, but have failed to provide the market necessary to absorb this increased production.

"We now realize," Whiteley continued, "that our biggest single job is to promote greater use of potatoes. However, all such information must rest solidly on facts."

Tomato Acreage Up

INDIANA—Vegetable crops are in excellent condition. Commercial tomato acreage is up 20 per cent this year, and an early season is expected.

Glenn Sanders, superintendent of the Horticulture Farm at Purdue University, died June 29. An outstanding horticulturist and friend of vegetable growers, he was 55 years of age.—F. C. Gaylord, Sec'y, Lafayette.

DDT Ineffective

NEW YORK—Because kraut processors prefer large cabbage heads and housewives like them small, the New York Experiment Station has come up with ways to control the size of cabbage heads to meet a particular market.

M. T. Vittum, vegetable crops specialist, says that the size of head, as well as yield and amount of bursting, are governed to a great extent by spacing and by irrigation.

"Cabbage grown for kraut should be

spaced 18 inches apart for maximum yields of large heads," said Dr. Vittum. "This spacing gave 3 tons to the acre more cabbage on non-irrigated fields, and 4 tons more on irrigated fields."

He advised market growers to space plants 12 inches apart for maximum yields of small heads. The percentage of unmarketable burst heads increased with wider spacing. Irrigation also increased bursting. The least amount of bursting occurred when plants were set 12 inches apart and not irrigated. However, non-irrigation reduced yields.

Also of interest to cabbage growers was the recent announcement by the New York Experiment Station that DDT is no longer very effective in controlling cabbage worms, especially the cabbage looper, in New York.

When DDT was introduced nine years ago, it gave almost complete control of cabbage worms. Now the worms seem to be less susceptible to the insecticide, at least in western New York. The cabbage looper appears to have acquired a large degree of DDT resistance.

Even though concentrations of DDT have been increased by growers, control is increasingly difficult.

"It cannot be due to seasonal or area variations, since the trend for decreasing effectiveness of DDT has been quite consistent," conclude station entomologists.

Asparagus Yields

DELAWARE—Asparagus growers will find the answers to many of their problems in a bulletin published recently by the Delaware Experiment Station. The bulletin is entitled "Effects of Fertilizer Practices, Cover Crops, and Ridge Culture on the Yield of Asparagus," and was written by Prof. E. P. Brasher, head of the department of horticulture.

Of all treatments tested, in seven years of research, the most outstanding was that of ridging the rows six inches high at the beginning of the cutting season. This treatment greatly increased yields and spear size over level culture.

It was also found best to broadcast
(Continued on page 19)

Know Your . . . VEGETABLE SEEDS

By VICTOR R. BOSWELL
U. S. Department of Agriculture

SWEET CORN

TONNAGE of sweet corn seed produced and planted in the United States is exceeded by that of only two other vegetables, peas and beans. In 1952 and 1953 about 18 million pounds of sweet corn seed were produced on about 9,500 acres annually, somewhat more than during the preceding 5 years. More than 85 per cent of the sweet corn seed is now of P₁ hybrids. An average acre of seed sweet corn will produce enough to plant more than 100 acres.

Most of our sweet corn seed is produced in Idaho although modest quantities of high quality are produced in other states, both East and West. All sweet corn seed, regardless of region of production, must be artificially dried to prevent spoilage. Heated, forced-draft installations for this purpose are very extensive.

Mature, dry, sweet corn seed is wrinkled and translucent in appearance, in contrast to the plump, or smooth, opaque seeds of field corns, because sweet corn seeds do not become filled with the amounts and kinds of starch that develop in the field types.

Sweet corn seed is short-lived, losing its viability very rapidly in hot, humid places. With seed requirements representing a very small part of the cost of producing sweet corn, the use of seed more than a year old is hardly worth the risk unless it has been



very well-stored. Because of its inherent weaknesses, sweet corn seed should be treated with a good fungicide before planting.

Sweet corn must have occurred as a mutation many times in the prehistoric cultures of the Indians. The difficulties of obtaining sound, unspilled seed and its low survival value probably explain why the Indians appeared to have little or no interest in sweet corn.

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Alert vegetable growers do things differently these days. Anyone who says the old way is good enough hasn't seen an Allis-Chalmers tractor perform.

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When the going is tough, the Traction Booster automatically transfers rear-mounted implement weight to drive wheels . . . as needed for traction.

Two-Clutch Power Control allows the power take-off and hydraulic system to operate when tractor is stopped.

Engine power spaces rear wheels. Five-way hydraulic system lifts and lowers implements. With SNAP-COUPLER Hitch, implements are instantly mounted or released. A wide variety of Allis-Chalmers mounted implements is available to take full advantage of the tractor's power conveniences.

Take the wheel and get the feel of the WD-45 in action. You'll be driving today's top-performing tractor . . . and the price will save you hundreds of dollars.

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Model WD-45 with heavy-duty mounted disc harrow — hydraulically lifted.



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CALENDAR OF COMING MEETINGS AND EXHIBITS

Aug. 4—Empire State Potato Club, Inc., 22nd annual field day, Bridgewater, N. Y.—Phillip Luke, Pres., R.D. 3, Fulton, N.Y.

Aug. 8-10—North Central Division of American Phytopathological Society summer meeting, Wooster, Ohio.—H. C. Young, Ohio Agr. Exp. Sta., Wooster, Ohio.

Aug. 9—Darke County Potato Field Day, Virgil Royer farm, near Arcanum, Ohio.

Aug. 9—Indiana State Vegetable Growers Association summer meeting and field day, Purdue University, Lafayette.—F. C. Gaylord, Sec'y, Lafayette.

Aug. 9-11—Ohio Pesticide Institute Summer meeting and field tour, Wooster and various points in northern Ohio.—J. D. Wilson, Sec'y, Wooster.

Aug. 11-Sept. 25—Vegetable Growers Association of America tour visiting England, Holland, Belgium, Germany, Switzerland, and France, including attendance at 14th International Horticultural Congress, Scheveningen, Holland, Aug. 29-30. Tour conducted by Walter F. Pretzer, American Express Company, 1425 Euclid Ave., Cleveland 15, Ohio.

Aug. 13—Seventh annual Vegetable Research Field Day, 1:30 p.m., University of Maryland Vegetable Research Farm, Salisbury.—A. A. Duncan, Sec'y, College Park.

Aug. 13—New York Vegetable Growers Field Day, Ithaca, N. Y.—R. Sheldrake, Jr., Cornell University, Ithaca, N. Y.

Aug. 15-Sept. 15—Michigan Celery Time, with special stress on Michigan pascal celery.—Howard Trapp, Sec'y, Michigan Celery Promotion Assn., Inc., Beulah.

Aug. 16-20—Centennial of Farm Mechanization, Michigan State College, East Lansing.—A. W. Farrell, Head Agr'l Engng. Dept., MSC, East Lansing.

Aug. 17—Annual Horticultural Field Day, Kansas State College Horticultural Farm, Manhattan.—Wm. G. Amstein, Sec'y, Manhattan.

Aug. 17—Wayne County Potato Field Day, Smithville, Ohio (morning) and Wooster, Ohio (afternoon).—Ralph Mumaw, Chairman, Machinery Exhibit Committee, Smithville.

Aug. 26—Vegetable Variety Field Day, The Pennsylvania State University, University Park (State College).—Martin L. Odland, Hort. Dept., University Park.

Sept. 6-8—American Society for Horticultural Science annual meeting, Michigan State University, East Lansing.—Geo. M. Kessler, Press Representative, East Lansing.

Sept. 9-10—Canada's 1st National Tomato Festival, Leamington, Ont.—Jack Wilcox, Room 1606, 111 Richmond West, Toronto, Ont.

Sept. 19-21—Texas Citrus and Vegetable Growers and Shippers, Inc., Shamrock Hotel, Houston.—Austin E. Anson, Exec. Mgr., 306 E. Jackson, Harlingen, Tex.

Oct. 4-6—Florida Fruit & Vegetable Association annual convention, Hotel Fontainebleau, Miami Beach.—Geo. Talbott, 29 S. Covitt St., Orlando.

Oct. 9-11—Produce Packaging Association, 1955 Convention and Exposition, Conrad Hilton Hotel, Chicago, Assn. hqtrs: 500 Fifth Ave., New York 36, N.Y.

Oct. 10—South Carolina Fresh Fruit and Vegetable Association annual convention, Hotel Wade Hampton, Columbia.—B. I. Raybon, sec'y, Unit 55B, State Farmers Market, Columbia.

Nov. 1-3—Florida State Horticultural Society 67th annual meeting, Fort Harrison Hotel, Clearwater.—Ernest L. Spencer, Sec'y, Bradenton.

Nov. 16-18—Western Growers Association convention, Westward Ho Hotel, Phoenix, Ariz. Association headquarters: 606 S. Hill St., Los Angeles 14, Calif.

Dec. 1-2—Iowa State Vegetable Growers' Association 42nd annual convention, Hotel Hartford, Mason City.—C. L. Finch, Sec'y, Ames.

Dec. 5-8—Vegetable Growers Association of America 47th annual convention, Sheraton-Park Hotel, Washington, D. C.—Joseph S. Shelly, Sec'y, 528 Mills Bldg., Washington 6, D. C.

Dec. 11-15—National Junior Vegetable Growers Association, 21st annual convention, Jung Hotel, New Orleans, La.—Prof. Grant B. Snyder, 103 French Hall, U. of Massachusetts, Amherst.

Jan. 30-Feb. 2, 1956—United Fresh Fruit and Vegetable Association annual meeting, Hotel Roosevelt, New Orleans, La. Association headquarters: 777 14th St., N. W., Washington, D.C.

Feb. 14-16—Ohio Vegetable and Potato Growers Association 41st annual meeting, Hotel Cleveland, Cleveland.—E. C. Wittmeyer, Sec'y, Horticultural Bldg., Columbus 10.

BETTER VEGETABLE BOXES From WABASH



Here is a very attractive tomato basket that not only displays the fruit to its best advantage but will withstand wear.



Attention Re-Packers

for dependable, rapid service suppliers on your tube masters of all sizes, contact us direct.

We make boxes for every use in the produce field. Also to your specifications.

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Packing sweet corn in wet-strength paper bags with ice at Harmon Packing Plant, Indianapolis, Ind. *Courtesy Purdue University*

ICING CORN SWEETENS PROFITS

Sales zoom for sweet corn
with the fresh-picked flavor

MANY quality-conscious growers are now sending their sweet corn to market in wet-strength paper bags packed with ice.

This year New York growers will send over a million bags of iced sweet corn to market. New Jersey will send another 75,000 bags. The pack generally commands a premium price on both the wholesale and retail market.

Before the introduction of wet-strength bags in 1952, many families had never tasted sweet corn with its characteristic "fresh-picked" flavor. In 24 hours, if held at 86° F., sweet corn loses over half of its sugar content. By lowering the temperature to 50° F., the loss of sugar can be reduced to 15 per cent, and flavor is still good.

Sugar Loss Prevented

Preventing this sugar loss can be accomplished by speedy movement from farm to retail store and continual refrigeration from the time of picking. The most popular method at the present time is packing the corn with ice in wet-strength bags. (Union Bag & Paper Corp., Woolworth Bldg., New York 7, N.Y.)

"This pack is economical, easy to handle, and preserves the quality of the corn as well as or better than any other marketing method in use today," declares George W. Luke, associate professor of agricultural economics at Rutgers University, who has directed research on the subject.

Two New Jersey sweet corn growers co-operated with Prof. Luke in experiments with wet-strength bags for icing corn. Both growers were well satisfied with results.

Packers on the farm said that packing in bags was as quick and as easy as in crates or bushels, as there is less facing and forcing. Handlers reported them easy to load and unload.

The bag holds about 52 ears of corn and 16 pounds of chipped ice.

The New Jersey Experiment Station, in co-operation with Franklin P. Miller, of East Orange, N.J., has developed an ice machine which automatically puts the right amount of ice in the bag.

The bags are sealed immediately, and not opened until they reach the retail store. Small holes in the bottom of the bag allow the water to run out as the ice melts.

In the experiments, corn was brought from field to packing house, graded, and packed with ice in wet-strength bags by a 12- to 14-man crew, whose hourly output was between 100 and 200 bags.

Economical Cost

The average total cost for ice, bags, wire ties, labor for icing, and other equipment was about 20 cents per bag. Only the cost of putting the ice in the bag was considered as a labor cost above that needed for conventional packaging. (Another study figured cost, including total labor, at 6 to 7 cents per dozen.) Total cost, says Prof. Luke, compares favorably with other methods.

How does iced corn sell? Last summer Cornell University made a survey of sales in Syracuse supermarkets. Iced corn was selling for 6 cents a dozen more than un-iced corn—yet it readily outsold un-iced corn by 47 per cent.

THE END

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Answering Your QUESTIONS

Don't let your questions go unanswered. Whether large or small, send them with a three-cent stamp for early reply to Questions Editor, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

GREENHOUSE CULTURE

Could you send me the names of some books or bulletins on greenhouse culture?—New York.

Complying with many requests like that of our New York reader, we have compiled the following list: *Growing Greenhouse Tomatoes*, Bulletin SB-10, Ohio Extension Service, Columbus; *Growing Vegetable Plants*, Michigan Agricultural Extension Folder F-141, Michigan State College, East Lansing; *Starter Solutions*, Folder F-194, Michigan Agricultural Experiment Station, East Lansing; *Growing Vegetable Transplants*, Bulletin 485, Ontario Department of Agriculture, Ontario, Canada; and the following USDA publications, available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.: *The Production of Cucumbers in Greenhouses*, Farmers' Bulletin 1320; *Lettuce Growing in Greenhouses*, Farmers' Bulletin 1418; *Hot Beds and Cold Frames*, Farmers' Bulletin 1743; and *Commercial Production of Greenhouse Tomatoes*, Farmers' Bulletin 2082.

Some of the better known textbooks on vegetable crops include chapters on plant growing while others contain information on the culture of greenhouse crops. These books are: *The Vegetable Growing Business* by R. A. and G. S. Watts; *Vegetable Crops* by H. C. Thompson; *Vegetable Production* by J. H. MacGillivray; *Vegetable*

Growing by J. S. Shoemaker; and *Soil & Fertilizers for Greenhouse and Garden* by A. Laurie and D. C. Kiplinger. All of the above books are available from the Book Department, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

MECHANICAL SHELLER

We are interested in a mechanical sheller for our freezing plant. Can you recommend sources for bean and pea shellers?—Texas.

For mechanical shellers, contact the Dixie Canner Co., Athens, Ga.; A. K. Robins & Co., Inc., 713 E. Lombard St., Baltimore, Md.; and Sinclair-Scott Co., 6245 State Rd., Philadelphia, Pa.

TOMATO STAKES

I am looking for information on some really good tomato stakes.—Indiana.

We are sending our reader tearsheets from the September, 1953, issue of AMERICAN VEGETABLE GROWER, showing the idea

of another reader, Harry J. Braun, of South Afton, Mo., for staking tomatoes. His designs for staking tomatoes eliminate poles and strings.

HORSE RADISH GRINDER

Where can I buy a small horseradish grinder?—California.

Try the John Bean Division, Food Machinery & Chemical Corp., San Jose, Calif. They should have a variety of all size grinders to meet all needs. Or, according to Burton J. Hoyle, of the University of California, a homemade grinder that works very well can be made from a wood cylinder about 8 inches in diameter with the surface studded with hundreds of sharp nail points. A motor rotates the cylinder and the horseradish roots are pressed against the studded surface through a hopper. The resulting product is of a very fine creamy consistency.

WHAT'LL IT MIX WITH?

1955 completely revised chart

That is the important question in economical spraying. The compatible nature of spray materials is mighty important in safe and effective spraying and AMERICAN VEGETABLE GROWER has produced an ingenious

SPRAY COMPATIBILITY CHART

which tells at a glance just what materials will mix safely. Printed in three colors, mounted on Bristol board paper, it is an accurate guide in the safe and successful mixing of all spray chemicals.

Better send for a copy—25c each; foreign single copies—75c each

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WILLOUGHBY, OHIO

For PLANNED Plant Nutrition—



DUST MIXTURES

Tennessee's Nu-M, Nu-Z, Nu-Iron and Tri-Basic Copper Sulfate are especially suited to be used in preparing nutritional sprays and dust mixtures.

Tennessee Corporation, the leading supplier of trace minerals to the nation's growers, announces two additional products for improved plant nutrition.

NU-MANESE

(Manganous Oxide)

For soil application, for use in mixed fertilizer or for direct spray or dust application.

NU-IRON

For correction of Chlorosis resulting from iron deficiencies by spray or dust application to the plant.

The above supplements our widely accepted agricultural chemicals —

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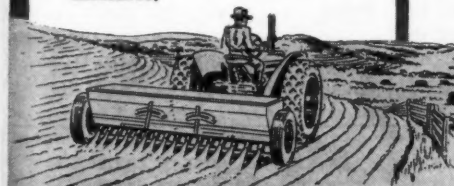
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Junior Growers . . .

ENROLL NOW IN VEGETABLE CONTESTS

THERE is still time to enroll in the Production and Marketing Contest, the Judging Contest, and the Demonstration Contest of the National Junior Vegetable Growers Association. Consult your state chairman or write to NJVGA headquarters—Prof. Grant B. Snyder, 103 French Hall, University of Massachusetts, Amherst, Mass.—for contest rules and entrance requirements. You owe it to yourself to become part of a progressive movement especially designed for youth.

New Orleans Land of Mystery

PLANS for the 21st annual convention of NJVGA in New Orleans, La., December 11-15, 1955, are under the direction of the following committee: Joseph Montelaro, general chairman; B. B. Jones, Herbert Spencer, Maida D. Tabor, John A. Cox, Yvonne F. Pavy, Eliza C. Macatee, LaNelle G. Long, and Lynn Pesson.

Indications point to an outstanding meeting. In addition to taking part in the National Demonstration and Judging Contests, delegates will visit historical spots, the French Quarter, the French market, banana docks, production areas and industries.

New Orleans is a fascinating city, combining the Old and the New World in interesting contrasts. Every street echoes to the mystery of long-ago adventure.

Make your hotel reservations as early as possible by writing to Emmett J. Bieger, Jung Hotel, New Orleans 12, La. The hotel has established a flat rate for all delegates and leaders of \$4.12 per person per day—double room and bath.

Get Rid of the Weeds!

GET an early start on the weeds and save a lot of work later on, urges NJVGA president, Nardine Thompson. Every weed that grows robs the soil of plant food and moisture.

Thinning is usually necessary. Just as soon as the third or fourth pair of true leaves develops on the plants, or as soon as the plants can be distinguished from weeds, they should be



Courtesy Illinois State Journal
Winner Jack Armstrong perched atop his prize.

thinned. Leave only the healthy plants—discard the small and weak.

The main object in cultivation is to destroy weed growth. Shallow cultivation, one which results in a shallow, level layer of loose soil on the surface, is best. Cultivate at least once a week during the early part of the season. If cultivation and weeding are done in the early morning the hot mid-day sun will kill the uprooted weeds.

Give your garden a fair chance. Prevent insect damage. Regardless of how well the garden is cared for, insects and disease will appear. The secret to insect control is to hit the bugs early and hit them hard. In the control of diseases, seed treatment, sanitation, and good growing conditions are the important factors.

Vegetables are composed largely of water. Water is necessary to carry plant food into the roots of the plant and to prevent wilting. A thorough irrigation every week or two is better than several light irrigations at shorter intervals.

Mammoth Fertilizer Prize

HAVE you ever had 2,000 pounds of fertilizer delivered at your back door? This recently happened to Jack Armstrong, of Springfield, Ill., last year's NJVGA



A bi-monthly page for the younger generation of vegetable growers and their national organization, the National Junior Vegetable Growers Association.

AMERICAN VEGETABLE GROWER

president. The fertilizer, donated by the Olin Mathieson Chemical Corporation, Baltimore, Md., was Jack's reward for being winner in Production and Marketing at the 1954 national convention.

Jack says part of the prize will be used on a 5-acre garden which he shares with his parents, Mr. and Mrs. C. A. Armstrong.

Biggest Pumpkin Prizes THE Walkerton, Ind., Muck Crop Show will hold a "Biggest Pumpkin (or Squash) in the World Contest" on Monday, October 25, 1955. According to Roscoe Fraser of Lafayette, Ind., secretary-treasurer of the Northern Indiana Muck Crops Association, the first prize in a special class for those who received seeds from a television or radio station will be \$15, second \$10 and third \$5, with a \$15 award for the biggest pumpkin in the show regardless of the origin of the seeds.

New Gardening Handbook ONE of NJVGA's active executive members has just published a new and comprehensive handbook, *Gardening Made Easy*. Dr. Arthur J. Pratt has been known for years as extension specialist working

21st ANNUAL CONVENTION
of
NATIONAL JUNIOR VEGETABLE
GROWERS ASSOCIATION
December 11-15, 1955
Jung Hotel
NEW ORLEANS, LA.

with youth groups at Cornell University, College of Agriculture. This practical handbook, published by the Hearstside Press, New York, N. Y., includes simple instructions and line drawings on how to produce prize-winning vegetables and flowers. Suggestions for setting up flower, fruit, or vegetable shows are also included.

Now at Raleigh MELVIN KOLBE, a member of the horticultural extension staff in West Virginia for a number of years, resigned as of June 30, to accept a similar position in North Carolina.

Mel has been associated with NJVGA for many years, starting as a member in his native Ohio, then as a local leader, as West Virginia state chairman, and finally as Northeast regional chairman and a member of the board of trustees. In moving to the southern region, Mel must resign as northeastern regional chairman but he will work with Mr. Covington in North Carolina to strengthen NJVGA in that state.—M. H.

AUGUST, 1955

do it the *John BEAN* way!
modern, profitable



harvest potatoes

with labor costs cut in half

With either of two brand new models of John Bean Potato Harvesters you can harvest and bulk load up to 600 bushels per hour with one-third to one-half the crew needed the old way. Three methods to choose from.

clean potatoes, onions, vegetables

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John Bean Grabill Cleaners are the modern way to clean, and polish your crop. For light soil and dry weather harvesting "Two-Way" brushes improve market appearance. Compact and nominal in cost.

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For heavy soils or wet harvesting conditions, modern washers are required to remove all soil and soil stain. Knobbed rubber brushes get into the eyes and depressions and deliver really clean potatoes. Latest improved absorber, with squeegee rolls, remove the surface moisture. For difficult drying conditions, the heated air dryer is available.

grade your crop

to meet the public's demand

With John Bean Packing House Equipment — graders, sorters, waxers, conveyors, packing tables and a complete line of accessories — you can turn out the kind of attractive, economical packs that are the most marketable and most profitable.

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☐ Potato Laundry L-825 ☐ Potato and Onion Graders L-1138

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The fungicides in Cellu-san prevent wood-weakening rot as well as contaminating mold. The water repellents in Cellu-san keep just the right amount of moisture in the wood. Containers won't dry out, become brittle and break so easily, nor become waterlogged.

All this protection is yours for a few pennies per box with a simple 3-second dip application! Write today for HOW TO SAVE WITH CELLU-SAN, the first and only water repellent wood preservative developed expressly for the food industry.

Cellu-san

Division of Darworth, Inc.
Peach Lane, Simsbury, Connecticut
Western Office, P.O. Box 1422, Palo Alto, Calif.

FROM SPUDS TO POTATOES

(Continued from page 7)

into improved onion grading and packaging equipment. Some of it helps step up packaging efficiency and reduce labor.

It costs more to pack in 3-pound bags than in 50-pound bags, but, on the Baldwin farms, the margin of profit is slightly greater for the small package. Last year onions in 50-pound mesh bags brought them 2.6 cents per pound while 3-pound polyethylene bags returned 4 cents per pound. The difference here is not all profit as you can readily see. Those hidden costs must be deducted as well as cost of the packages.

More uniform sizing of onions than is generally practiced might speed up bagging efficiency. The Baldwins are working on this idea and in another year hope to have some improvements. At present the trade likes bagged onions to run from 1½ inches up, with 70 per cent over 2 inches, but with jumbos taken out. Smaller sizes are marketed as boilers.

Labeled Bag for Potatoes

Potato growers have also found that the consumer-sized package pays them more profits than the old 100-pound bag, or even the 50-pound bag still in use. A recent study by the University of Maine showed that the housewife prefers her potatoes washed and packed in polyethylene bags. She likes the bags printed too. The figures stack up something like this: 63 per cent of housewives surveyed bought potatoes in printed polyethylene bags; 26 per cent purchased potatoes in mesh window paper bags; 11 per cent bought those in corrugated boxes.

Members of the Pennsylvania Co-operative Potato Growers, Inc., last season marketed under their "Blue Label" brand some 14 million peck equivalents of potatoes in 5-, 10-, 15-, and 50-pound paper bags. About 90 per cent of the Pennsylvania potato crop goes into consumer-sized bags. Growers like the smaller bag because it nets them more money than potatoes sold in larger bags.

James A. Hannah, secretary of the co-op, points out that trade picks up with the small, labeled package because the housewife is getting what she wants. *And she knows what she is getting.* Maintaining a high standard grade and quality of potatoes under the Blue Label brand has contributed largely to the consumer's confidence. The potato isn't just a spud anymore. It is a special product, graded and packed to suit the customer's needs.

Last year the Pennsylvania State

University and the Pennsylvania Bureau of Markets co-operated in a study of potato quality and packing house efficiency. This study emphasized the need for greater care in harvesting and handling potatoes to insure a greater percentage of No. 1's going to market.

Inspection of bins on farms showed that as much as 23 per cent of the potatoes would not make U.S. No. 1 grade. At the top of the list of serious defects was mechanical injury, showing 6 per cent. Next was sunburn with 4.6 per cent, and third was undersize with 3.6 per cent below U.S. No. 1 standards. Wireworm damage, growth cracks, scab, second growth, and similar defects made up the remainder.

Low bin quality also means that it costs more to pack out the potatoes. The Pennsylvania study showed that if bin defects were under 15 per cent the output per man on the grading and packing line ran to 47 pecks per hour on the average. If bin defects totaled over 30 per cent, then output dropped to only 24 pecks per hour.

The higher the efficiency in the packing house the greater the profits. The 175 observations made in Pennsylvania packing houses reveals how the time was spent:

31% in sorting
18% in loading grader and filling bags
11% in weighing bags
9% in closing bags
13% in stacking and miscellaneous jobs

A time study of your own packing-house procedures may reveal weak places. Conveyors and automatic filling machines can often speed up the packing line. Power lifts and carts can reduce labor in stacking and storing. Each item has to be studied in relation to the others. THE END

THE ATOMIC AGE

(Continued from page 11)

signing and fabricating suitable machines, commercial application of irradiation must await approval of the Food and Drug Administration.

Experiments are now underway in a number of laboratories to test whether there are any serious adverse changes induced in irradiated foods. Present indications are that the doses required to control sprouting in potatoes should cause rather minor changes in nutritional qualities of the potatoes. Taste tests have failed to show any detectable change in flavor or taste.

From all indications, irradiation may soon be just as common as washing and waxing in the potato industry. THE END

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MARYLAND VEGETABLE QUEEN

Meet Norma Vivian Bauer—1955 Maryland Vegetable Queen. Norma is the 17-year-old daughter of John Bauer, owner of Baltimore Farms, Bradshaw, and works as secretary and bookkeeper of the family's vegetable growing business during summer vacations. Norma will represent the Maryland Vegetable Growers Association at the annual VGAA convention this December 5-8 in Washington, D. C.

STATE NEWS

(Continued from page 12)

2,000 pounds of ground limestone per acre before planting the crowns—instead of applying the limestone in the furrows. The best time of applying fertilizer was found to be in split applications, half in spring before growth started, and the other half at the end of the cutting season.

The best fertilizer was 5-10-15 while 5-10-10 was the poorest. All yields favored the plots using commercial fertilizer instead of poultry manure. In fact, annual application of poultry manure to establish plantings greatly reduced yields.

The new bulletin—No. 311—is available from the Mailing Room, Agricultural Hall, University of Delaware, Newark.

Celery Tour

MICHIGAN—Representatives of the Consumer Information department of Michigan State University and the Marketing Service of the state Department of Agriculture made a "celery tour" of Western Michigan July 14.

They viewed the whole pascal celery operation from cutting and trimming in the fields at Weesies Brothers farm, Montague, to washing and packing on the Workman farm at Muskegon. At the

MEETING OF ASHS AT MICHIGAN STATE
Leading horticulturists from all parts of the country will report results of recent experiments at the annual meeting of the American Society for Horticultural Science, to be held at Michigan State University, East Lansing, September 6-8.

Some of the outstanding papers to be presented on the subject of vegetables are: Irrigation versus mulch; tomato blossom end rot; growth regulators on lima beans; pigmented polyethylene for weed control, forcing, and irrigating; triploid watermelons; and influence of cold temperatures on tomato flower formation.

Muskegon Celery Growers Cooperative plant they saw crates of celery cooled and loaded into refrigerated trucks.

They were luncheon guests at the farm of tour guide Ed Weesies, president of the Michigan Celery Promotion Association.—Howard Trapp, Sec'y, Beulah.

Reorganization

ILLINOIS—In the process of reorganization is the Illinois Vegetable Growers Association. New officers include Walter

Sass, Des Plaines, president; Harold Fingerhut, East St. Louis, vice-president; and Charles Benck, Manhattan, secretary-treasurer. Directors are Leo J. Hagemann, Peoria; George Powell, Jr., East St. Louis; R. J. Baker, Jonesboro; and Arthur Krause, Peoria.

One of the new activities of the association is to send a weekly report on the Illinois vegetable situation to all members. Growers wishing to join should write to Charles Benck, R. R., Manhattan, Ill.—Norman F. Oebker, Ext. Veg. Crops, Urbana.

New Pole Bean

FLORIDA—Seed of a new high-yielding, disease-resistant pole bean, Florigreen, has been released to seed producers by the Gulf Coast Experiment Station at Bradenton, Fla. Seed will probably be available to growers in late fall, 1957.

Florigreen is a cross between F-M 191 and Pinto No. 5 made by Dr. A. P. Lorz, of the Florida Agricultural Experiment Station at Gainesville.

It is resistant to bean rust, a fungus disease that is hard to control in commercial plantings, and to common and southern bean mosaics. It is not resistant to yellow bean mosaic.

In Florida trials, Florigreen has out-yielded F-M 191 and McCaslan, the commercial standards for most areas in Florida.



NEW JERSEY VEGETABLE QUEEN

New Jersey's candidate for the title of National Vegetable Queen is blond, blue-eyed Ruth Louise Propst, 18-year-old sophomore at Douglass College, Rutgers University. Ruth Louise lives with her parents, Mr. and Mrs. H. Earl Propst on a farm near New Brunswick. She has been outstanding in 4-H Club activities.

The pods resemble F-M 191 in straightness and length but are a shade darker.

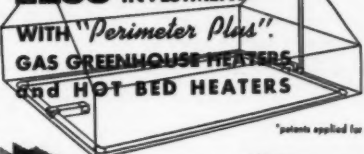
They retain a dark green color for fresh market, and are practically stringless in the proper stage for harvest. Florigreen matures 3 to 5 days earlier than F-M 191, a big advantage with a fall crop that may encounter frost and wind damage.

First Tomato Festival

CANADA—The dominion's first National Tomato Festival will be held September 9 and 10 in Leamington, Ontario, the heart of 15,000 acres of tomato fields.

Selection of a queen, prize tomato judging, a cooking school, and other events are planned. Canadian growers wishing to enter tomatoes for judging should contact W. E. Gunn, general secretary, Tomato Festival, Leamington, Ontario.

MORE GREENHOUSE PROFITS FOR LESS INVESTMENT



White's "Perimeter Plus" Heating means Thermostatic Gas Heat around the walls, PLUS under the benches, PLUS in the corners, PLUS thru the hotbeds.

WHITE'S "PERIMETER PLUS" Heating is approved by leading universities.

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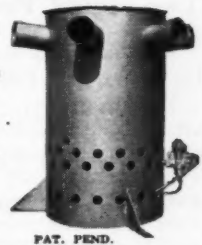
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HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

AUGUST, 1955

NEW FOR YOU

—to increase your profits

Quicker Sales with Slicker Labels!

The quickest and most effective way to sell your vegetable and pro-



cessed products is to use an attractive, eye-appealing label. Not only for original sales but for repeat sales it is important that you establish your brand name. Several Michigan growers are using the well-designed and inexpensive labels made by the Bartlett Label Company, 2136-V Portage St., Kalamazoo, Mich. If you need help in design or are looking for a good supplier, write them today. The selling season isn't far off.

Two-pound Pack Sells More Tomatoes

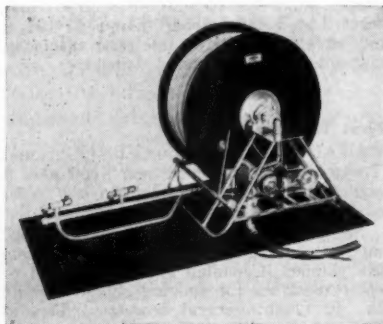
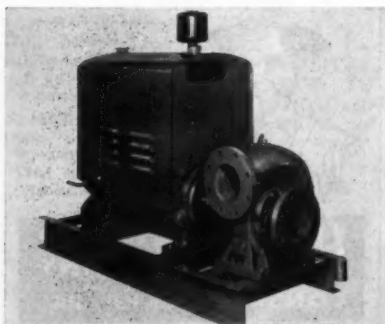
Why not try a larger unit package for selling your tomatoes?

Tomato growers on the west coast are using a new tomato pack which is creating increased sales. The new TRIPLTITE Tray handles 2 pounds and can be wrapped on your existing wrapping machines. Samples are available to our readers by writing Standard Folding Trays Corp., 85th St. and 24th Ave., Jackson Heights 69, N. Y.



Mechanical Irrigation

Last week in southern Ohio I saw a very successful grower using a new method of irrigating. He was using the Hoseboy equipment, which is revolutionary and embodies seven big improvements: low investment, low-cost operation, absence of water on foliage, even distribution of moisture, no puddling, ease of movement to a new location, and simple maintenance. The grower using the equipment said it had already paid for itself this year. Why not write Oldfield Equipment Co., Cincinnati 16, Ohio, for details.



Cut Spraying Cost

With concentrate spraying playing a bigger part in vegetable growing, it is doubly important to keep spray nozzles clean and free-flowing. Time and money too often are wasted cleaning clogged nozzles. Growers in southern Illinois have found that the new Spray Rig Filter is saving spray dollars. Strongly made and easily cleaned, it will fit your present rig. For full particulars, write the Central Mine Supply Co., 218 S. Third St., Mt. Vernon, Ill.

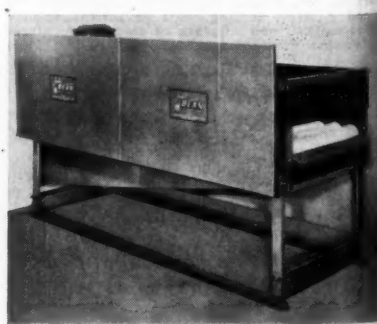


Clean Potatoes

Clean potatoes mean higher prices, and the equipment needed to do the job is simple and inexpensive. A new unit doing a wonderful job is pictured below. The washer fits any packing line, and 10 washing brushes with pintle rubber tips scrub the potatoes thoroughly but gently under a continuous spray of water from overhead nozzles. After the potatoes have been washed, they pass over 8 drying

When writing manufacturers be sure to mention **AMERICAN VEGETABLE GROWER**

rolls equipped with inexpensive toweling. The new units are available in 18, 30, and 42-inch widths. Get extra profits from your potatoes. Write Art Gerard at John Bean Division, Food Machinery & Chemical Corp., Lansing 4, Mich., for the facts on this new machine.



AMERICAN VEGETABLE GROWER

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Brussels sprouts grown by members of Santa Cruz Artichoke and Sprout Growers Association are film bagged and packed 12 or 24 to a wooden container, for truck or rail shipment.

SOME POINTERS

(Continued from page 10)

Prepackaged cauliflower, according to the Fudenna Brothers, has the following advantages:

For the grower: Shipping costs are lower than on the unpackaged. A freight car carries 60 per cent more or 816 cartons of cellophane-packaged heads against 510 unwrapped. Printed heat-sealed cellophane overwrap protects the "flowers" and allows brand identification.

For the retailer: Several days are added to the salable life of the "flowers." No time is lost in trimming, packaging, or disposing of waste. Conveniently price-marked for self-service, the package lends itself to mass displays.

For the consumer: Each head is ready for cooking, shopping is easier with a self-service package, and packaged "flowers" can be easily stored in home refrigerators. **THE END**



"Coast King" sprouts of the Santa Cruz co-op are cleaned, washed and precooled before they are bagged and weighed. Bags are stitched.

AUGUST, 1955

OPPORTUNITY ADS

Only 25c a word for one-time insertion; 20c a word for two-time insertion; 15c a word for four-time insertion—CASH WITH ORDER. Count each initial and whole number as one word. ADDRESS AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

AGENTS WANTED

RUN SPARE-TIME GREETING CARD AND Gift Shop at home. Show friends samples of our new 1955 Christmas and All-Occasion Greeting Cards and Gifts. Take their orders and earn to 100% profit. No experience necessary. Costs nothing to try. Write today for samples on approval. REGAL GREETINGS, Dept. 9, Ferndale, Michigan.

BUSINESS OPPORTUNITIES

GROW MUSHROOMS. CELLAR, SHED. Spare, full time, year round. We pay \$3.50 lb. We paid Babbitt \$4,165.00 in few weeks. FREE BOOK. WASHINGTON MUSHROOM IND., Dept. 127, 2954 Admiral Way, Seattle, Wash. MAKE MONEY RAISING CHINCHILLAS—Free catalog. KEENEY BROTHERS, New Freedom 15, Pennsylvania.

FOR SALE—EQUIPMENT AND SUPPLIES

FOR SALE: ONE HAHN HI-BOY SELF-propelled Row Crop Farm Sprayer, 8-row boom, separate engine drive for pump, 100 gallon tank, condition excellent. Will guarantee. \$875.00 F.O.B. Cincinnati. This machine must be seen to be appreciated. D. R. VAN ATTA SEED CO., 3210 Spring Grove Ave., Cincinnati 25, Ohio. Phone Kirby 2051.

PUMPS IDEALLY SUITED FOR IRRIGATION. 20 sixteen inch Pacific, type DMB, 870 rpm, pumps 7,000 gpm with 50 ft. head working at 80% efficiency. Curve sheet available upon request. Excellent condition. \$495.00 each. Wire, phone or write NEWMAN'S, INC., P.O. Box 1865, Ph. 2-5228, Tulsa, Okla.

GOOD USED FARM CONTAINERS—SPLINT handle baskets, bushels, boxes, hampers, bags, nailed and wirebound crates. Truckload or carlots. Call or write ZELVY BROS. CONTAINER CO., 2005 Orange Ave., Cleveland, Ohio.

1—500 GAL. BEAN SPRAYER, 58TR; 1—300 gal. Bean, Model No. 48; 1—500 gal. Myers, TR; 1—300 gal. Bean, Model No. 20MT; 1—200 gal. Iron Age, TR; 1—Aqua Jet Blower attachment; 1—Bean Speedaire; 2—Royal Bean pumps; 12,000 new and used crates; 1—Spartan sprayer. CORY ORCHARDS, Cory, Indiana.

HELP WANTED

SALESMAN OR MFG. AGENT CALLING ON the Agricultural Trade to sell a high grade line of Spray Nozzles and parts for Power Spraying Machines. Square Deal, liberal commissions. JENNINGS ASSOCIATES, Somers, Conn.

MISCELLANEOUS

MAILING LISTS—100,000 CAREFULLY selected names in the Agricultural Field. Individual lists of Potato Growers, Tomato Growers, Corn Growers, and many others. Ideal for firms wishing to contact leading growers and dealers. For details write: MACFARLAND CO., Box 2, 8 Elm St., Westfield, N. J.

NEW PLASTIC MENDING TAPE. JUST press on! Repairs clothing instantly. Lightning seller. Samples sent on trial. KRISTEE 111, Akron, Ohio.

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Add to your income by selling AMERICAN VEGETABLE GROWER. It's a logical combination for AMERICAN VEGETABLE GROWER will help your customers get the best results from the seed you sell them. *Make every call pay!* This means additional cash for you regardless of whether you sell a seed order or a subscription to AMERICAN VEGETABLE GROWER.

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Willoughby, Ohio

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One Likes It Hot—The Other Cold

TASTES for "pease porridge" apparently differ, if you believe the old nursery rhyme. Some like it hot, some like it cold.

In certain stages of growth, peppers and tomatoes appear to show this tendency. After the fruits are set, tomatoes like it warm, peppers like it cool.

Last season on the Benton Harbor, Mich., produce market after the middle of August, fancy quality peppers were selling for less than \$1.50 per bushel, while the year before a poorer quality was bringing over \$3 per package.

At the same time, tomatoes were bringing over \$2 for a 10-pound handle basket, while during the same period of the previous year, they were hard to move at much over \$1.

There were just too many good peppers and too few high-quality tomatoes in 1954, while the opposite was true in 1953.

The production of a satisfactory yield of California Wonder type peppers has been erratic, and even the most productive types fail to produce during unfavorable seasons in many areas. In southwestern Michigan in 1954 temperatures were above normal during June and early July, an ideal situation for pepper growth, but too high for tomatoes to set well.

In 1953 early summer temperatures were below normal, and poorer pepper growth resulted. Pepper plants need a higher temperature during their early growth stage than the tomato; newly-transplanted crops of pepper even appear to shrink if night temperatures fall into the fifties.

In 1954 after the first part of July the weather in Michigan turned cool. This was favorable for setting the fruit on pepper plants that had developed to a large size during the warm weather of late June and early July. However, in tomatoes the higher temperatures of late June caused a large number of the flowers to drop, and the cooler weather in late July and August delayed the maturity of those that had set.

Temperature has an important effect on plant growth, and this effect varies both with the crop and its stage of development. In tomatoes, blossoms drop either because of lack of satisfactory pollination at low night temperatures below 55°-60° F. depending on the variety, or a rapid drying of flower parts at high day-

time temperatures above 85°-90° F.

These same high temperatures, although not favorable for the setting of peppers, do promote plant development. These large pepper plants develop flowers and set fruit rapidly when cooler seasons with 70°-80° F. day and 55°-65° F. night temperatures prevail.

The lack of production in certain California Wonder types of peppers cannot be readily improved with fertilizer during high temperature periods. However, some of the newer California Wonder types are somewhat more resistant to high temperatures during fruit setting than the original California Wonder strain.

In both tomatoes and peppers, the cause of blossom drop at high temperatures is often associated with too much nitrogen in the soil. At high temperatures the carbohydrates synthesized in the plant through photosynthesis are partially lost through the high rate of respiration caused by the high temperature. This results in an overbalanced supply of nitrogen in relation to the carbohydrate content and the dropping of flowers.

Tomatoes and peppers are able to efficiently utilize more nitrogen in the North than in the South. Consequently, the northern-grown tomato crop generally receives 50 to 100 per cent more nitrogen than the southern crop.

The application of soluble potash salts through irrigation water has benefited both tomatoes and peppers that fail to set during hot dry weather. The potash salts counteract the detrimental effects of an oversupply of

nitrogen and in the case of tomatoes help to promote a more rapid ripening.

During drought periods, the use of irrigation not only helps prevent blossom drop as indicated by a larger number of fruit per plant, but also results in larger-sized fruit. Nitrogen applications should be avoided during hot dry periods if blossom drop is a problem.

The quality of both tomatoes and peppers is influenced by both temperature and moisture. Low temperatures in the sixties not only promote a better fruit set in peppers, but also result in a thicker-walled, sweeter product.

In both tomatoes and peppers a high temperature with fluctuating soil moisture conditions frequently results in blossom end rot. This trouble is thought to be associated with a water deficiency in the plant. The plants pull some of the water out of the fruits from the blossom end and cells in that region disintegrate.

The problems of blossom end rot, radial cracking at the stem end, and concentric cracking around the tomato, are frequently related to the variety and its ability to withstand fluctuating moisture conditions. In many seasons these problems can be partially avoided by proper irrigation. The soil should be watered whenever the moisture-holding capacity falls below 50 per cent.

However, the surest way of avoiding cracking and blossom end rot troubles is to maintain a favorable soil structure for deep rooting. The use of organic matter, produced by soil-building crops or manure, will promote granulation and facilitate deep rooting. On certain soils, subsoiling or applying lime in the subsoil will facilitate deeper rooting and help insure a more uniform moisture supply during hot, dry, windy weather.

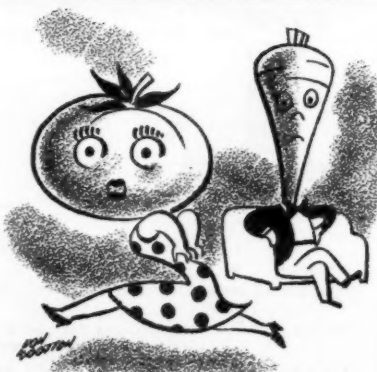
In general, peppers require a warm season for plant growth and a cooler season for fruit set and development; while tomatoes are intolerant of both low and high temperatures during fruit set, but after they are set, develop most rapidly at fairly warm temperatures.

Coming Next Month Mechanization Issue

- What Growers Are Doing to Mechanize
- Hints on Machinery Service and Repair
- Electric Welding Isn't as Hard as It Seems
- How an Ohio Grower Increases the Productivity of His Workers

AMERICAN VEGETABLE GROWER

VEGETABLE CONVENTION



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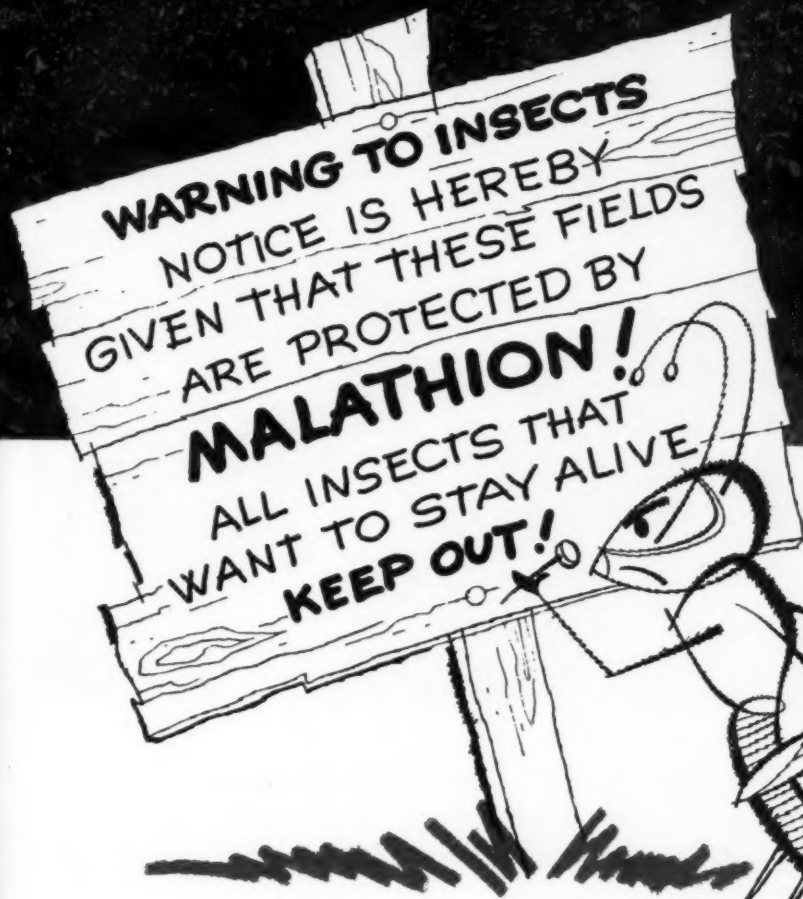
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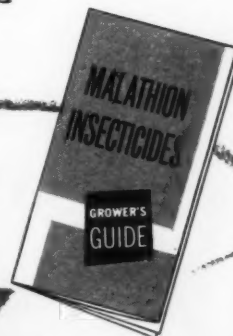
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If insects *could* give warning, they *would*. For malathion is one of the most highly toxic insecticides to scores of insects. Yet malathion has very *low* toxicity for man and animal, is called "one of the safest insecticides to handle" by USDA. What's more, malathion residues disappear quickly, and it is compatible with most other commonly used insecticides and fungicides.

Malathion insecticides are available from well-known manufacturers under their own trade names. Consult local agricultural authorities on timing of applications.

Write for new, revised
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GROWER'S GUIDE.



AMERICAN Cyanamid COMPANY

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This Asgrow development has field immunity to fusarium wilt. Fruits of Rutgers type but a little earlier. Very firm for distant shipping, either mature-green or vine-ripened pink.



All Asgrow tomato seed comes in

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